

IN THE CLAIMS

The following is a complete listing of claims that replaces all previous listings of claims in this application.

1. (currently amended) A heald ~~[[Heald]]~~ frame for a weaving loom, said frame ~~being obtained by assembling~~ including two spaced vertical struts ~~[[with]]~~ and two spaced cross-bars each provided with a heald-carrier rod ~~in one piece with the~~ corresponding cross-bar or added thereon over substantially the whole of its length, at least one of the struts having a projection adapted to be joined to an end portion of an adjacent cross-bar, at least one of the extremities the end portion of at least one of the cross-bars adjacent cross-bar being equipped with tubular and of a size to receive the projection therein, at least one locking member for locking a part the projection of an adjacent strut, inside an to the end portion of [[said]] the adjacent cross-bar, forming a zone of junction with said strut, characterized in that said end portion (P) comprises a part (35, 135, 235, 335, 435, 535, 835, 935, 1035, 1135) whose external transverse profile is substantially convex and at least one hoop (40, 140, 240, 340, 440, 540, 640, 740, 840, 940, 1040, 1140) surrounding the end portion, the projection said part of substantially convex external transverse profile and [[said]] the at least one locking member (25, 26, 944-946, 1044, 1046, 1125a, 1126), and the at least one hoop cooperatively engaging an outer surface of the at least one end portion to thereby reinforce the at least one end portion and in order to resist a locking effort (F_3 , F'_3) exerted by [[said]] the at least one locking member and to secure the projection to the end portion.

2.(currently amended) [[Heald]] The heald frame according to Claim 1, ~~characterized in that said~~ wherein the projection extends within the tubular end portion ~~hoop (40; 140; 240; 340; 440; 540; 640; 740; 840; 940; 1040) surrounds said part of substantially convex external transverse profile (35; 135; 235; 335; 435; 535; 835; 935; 1035) which is tubular and itself surrounds said locking member (25, 26; 1044, 1046) and/or said part (921a; 1021a) of said strut .~~

3.(currently amended) [[Frame]] The heald frame according to Claim 1, ~~characterized in that said~~ wherein the adjacent cross-bar (22; 122; 222; 322; 422; 522; 622; 822; 922; 1022; 1122) is provided, between said zone of junction (35; 135; 235; 335; 435; 535; 835; 935; 1035; 1128a) and said with a slot between the end portion thereof and the heald-carrier rod, (29; 129; 829; 929; 1129), with a volume (36; 136; 436; 836; 936; 1136) for partially receiving said and the at least one hoop passing through the slot (40; 140; 240; 340; 440; 540; 640; 740; 840; 940; 1040; 1140).

4.(currently amended) [[Frame]] The heald frame according to Claim 3, ~~characterized in that said volume is formed by a groove (36; 136; 436; 836; 936; 1136) extending between said zone of junction (35; 135; 435; 935; 1128a; 1135) and said rod (29; 129; 829; 939; 1129), in a direction (Y₃₆-Y'₃₆; Y₈₃₆-Y'₈₃₆) wherein the slot extends substantially parallel to a longitudinal axis (Y₂₂-Y'₂₂; Y₈₂₂-Y'₈₂₂) of said~~ of the adjacent cross-bar (22; 122; 822; 922; 1122).

5.(currently amended) [[Frame]] The heald frame according to Claim 4, ~~characterized in that said groove (36; 136; 436) the slot opens out on a terminal face [(28a)] of the extremity (28; 928; 1028) of the end portion of the adjacent cross-bar (22; 122; 222; 322; 422; 522; 622; 922; 1022; 1122).~~

6.(currently amended) [[Frame]] The heald frame according to Claim 3, characterized in that ~~said groove is formed by an oblong the slot (836) made between said part (835) of substantially convex external transverse profile and said heald-carrier rod (829), said slot is spaced from and does not opening out on open to a terminal face (828a) of the extremity (828) end portion of the adjacent cross-bar [(822)].~~

7.(currently amended) [[Frame]] The heald frame according to Claim 1, ~~characterized in that said wherein the heald-carrier rod (29; 129; 829; 929; 1129) includes a terminal part that extends in overhang over a part (29a; 129a; 929a) of its length disposed opposite said zone of junction (35; 135; 935; 1128a; 1135) in spaced relationship along the end portion.~~

8.(currently amended) [[Frame]] The heald frame according to Claim 1, ~~characterized in that it comprises means (40-42; 144-146; 244-247; 344-347; 444, 448; 541; 944-946; 1044, 1046; 1148) including means for immobilizing [[said]] the at least one hoop (40; 140; 240; 340; 440; 540; 640; 740; 840; 940; 1040; 1140) on said zone of junction (35; 135; 235; 335; 435; 535; 835; 935; 1035; 1128a; 1135) on the end portion.~~

9.(currently amended) [[Frame]] The heald frame according to Claim 8, characterized in that said wherein the means for immobilizing means comprise a includes at least one wedge (144, 144', 244; 344) adapted to cooperate that cooperates with a corresponding ramp (146a, 146a', 222b, 340e) provided on an outer face (222b) of [[said]] the end portion of the adjacent cross-bar [(222)], and adjustment means for adjusting a relative position of the at least one wedge and the ramp to thereby tension the on an intermediate piece (146) or on an inner face (340e) of said hoop (340) with a view to tensioning said at least one hoop (140; 240; 340) relative to the end portion.

10.(currently amended) [[Frame]] The heald frame according to Claim 9, characterized in that said wedge (144; 244; 344) is controlled, in its displacement with respect to said ramp (146a, 146'a, 222b, 340e), by means of wherein the adjustment means includes a screw-nut link (144-145; 244-245; 344-345) that displaces the at least one wedge relative to the ramp.

11.(currently amended) [[Frame]] The heald frame according to Claim 8, characterized in that said the at least one hoop (440; 1140) is glued (448; 1148) around said extremity (435; 1128a) of cross-bar (422; 1122a) to the end portion.

12.(currently amended) [[Frame]] The heald frame according to Claim 8, characterized in that said wherein the at least one hoop [(540)] is provided with at least one orifice (540e) for passage of a locking member (541) on said cross-bar extremity (535) that engages the end portion.

13. (currently amended) [[Frame]] The heald frame according to Claim 1, ~~characterized in that said~~ the at least one hoop [[(40)]] ~~is formed by bending a~~ of bent metal sheet ~~shaped around said zone of junction (35).~~

14. (currently amended) [[Frame]] The heald frame according to Claim 1, ~~characterized in that it comprises~~ wherein the at least one locking member includes mechanical means ~~(944-946; 1044-1045)~~ adapted to ensure both the immobilization ~~(F₁₀)~~ of a part ~~(921a, 1021a)~~ of said strut ~~(921; 1021)~~ in said end part ~~(935; 1035)~~ and the positioned between the at least one hoop and the end portion for tensioning ~~(F₁₁)~~ of said the at least one hoop (940; 1040) to retain the projection of the strut within the end portion of the adjacent cross-bar.

15. (currently amended) [[Frame]] The heald frame according to Claim 14, ~~characterized in that said~~ wherein the mechanical means ~~comprise~~ includes at least one wedge ~~(944, 944', 946; 1044, 1044')~~ interposed between said part ~~(921a, 1021a)~~ of said strut ~~(921; 1021)~~ and said the projection and the at least one hoop (940; 1040).

16. (currently amended) [[Frame]] The heald frame according to Claim 15, ~~characterized in that said~~ wherein the wedge (944, 944'; 1044, 1044') is controlled, in a movement of translation substantially parallel to a longitudinal axis ~~(Y₉₂₂-Y'₉₂₂; Y₁₀₂₂-Y'₁₀₂₂)~~ of said of the adjacent cross-bar (922; 1022), by a screw-nut member type link (944-945; 1044-1045).

17. (currently amended) [[Frame]] The heald frame according to Claim 15, ~~characterized in that said wherein the~~ mechanical means ~~comprise~~ includes two wedges ~~(944, 944', 1044, 1044')~~ provided with ~~effort transmission~~ ramps ~~(944a, 944'a, 1044a, 1044'a)~~ inclined at angles ~~($\alpha_1, \alpha_2, \beta_1, \beta_2$)~~ opposite with respect to a longitudinal axis ~~($Y_{922}-Y'_{922}, Y_{1022}-Y'_{1022}$)~~ of said cross-bar ~~(922, 1022)~~ that engage oppositely inclined faces of an opposing complementary wedge, and adjustment members for moving the two wedges and the complementary wedge relative to one another.

18. (currently amended) [[Frame]] The heald frame according to Claim 14, ~~characterized in that the part (921a, 1021a) of said strut (921, 1021) inserted in said end part (935, 1035) of the cross-bar (922, 1022) wherein the projection is in one piece with a the principal elongated part (921b, 1021b) of said of the~~ strut.

19. (currently amended) [[Frame]] The heald frame according to Claim 14, characterized in that the ~~part (1021a) of said projection of the strut (1021) inserted in said end part (1035) of the cross-bar (922, 1022) is provided with~~ includes a member ~~(1021e)~~ for holding [[said]] the mechanical means ~~(1044-1045).~~

20. (currently amended) [[Frame]] The heald frame according to Claim 19 wherein the ~~16, characterized in that said member is a rod (1021e) provided with an orifice (1021f) for passage of a screw (1045) for tightening two wedges (1044, 1044') against ramps (1021e, 1021d) formed on said part (1021d) of said the~~

projection of the strut (1021), on either side of ~~[[said]]~~ the rod.

21.(currently amended) ~~[[Frame]]~~ The heald frame according to Claim 14, ~~characterized in that, at the level of at least one of its upper (932, 1032) or lower (921, 1031) zones of contact with the strut (921) and/or with wedges (1044, 1044') borne by said strut (1021), said cross-bar (922, 1022) is provided with at least two substantially planar bearing surfaces (931i, 931j, 932i, 932j) parallel to a longitudinal axis (Y₉₂₂-Y'₉₂₂) of the cross-bar and oblique between one another, while said part (921a) of said strut (921) introduced in said cross-bar and/or wedges (1044, 1044') borne by said part (1021a) is and/or are provided wherein the end portion of the adjacent cross-bar includes upper and lower oppositely inclined bearing surfaces that engage with complementary bearing surfaces (921i, 921j) likewise oblique between one another of the projection of the strut.~~

22.(currently amended) ~~[[Frame]]~~ The heald frame according to Claim 14, ~~characterized in that said~~ wherein the mechanical means ~~comprise~~ includes at least one control screw (945; 1045) offset, in a direction perpendicular to a longitudinal axis ~~(X₉₂₂-X'₉₂₂; Y₁₀₂₂-Y'₁₀₂₂) of said~~ of the adjacent cross-bar (922, 1022) and beyond the part (921a, 1021a) introduced in said cross-bar, with respect to a principal part (921b, 1021b) of said strut (921, 1021).

23.(currently amended) [[Frame]] The heald frame according to Claim 3, ~~characterized in that said~~ wherein the at least one hoop includes a portion that extends beyond an end of the end portion in which the projection is received ~~this extremity in a tubular part (1140b) for receiving and immobilizing said part (1121a) of said strut (1121).~~

24.(currently amended) [[Frame]] The heald frame according to Claim [[23]] 1, ~~characterized in that said~~ wherein the at least one hoop is crimped hot around [[said]] the end portion of the at least one cross-bar.

25.(currently amended) [[Frame]] The heald frame according to Claim 3, ~~characterized in that said~~ 1 wherein the end portion of the adjacent cross-bar [[(922)]] is provided with at least one flexible slot [[(949)]].

26.(currently amended) [[Frame]] The heald frame according to Claim 25, ~~characterized in that said part of said extremity (935) of substantially convex profile wherein the end portion is of substantially rectangular section and in that said~~ the at least one slot [[(949)]] is made in a long side (933, 934) of said the section.

27.(currently amended) [[Frame]] The heald frame according to Claim 2, ~~characterized in that the substantially convex profile of said part (1035) of said extremity of the cross-bar is obtained by adding a filling element (1050) between said part~~

~~(1035) and said~~ 1 wherein a filling material is placed between the end portion and the at least one hoop ~~(1040).~~

28. (currently amended) A weaving loom, the weaving loom including at least one ~~Weaving loom (M) equipped at least with~~ a heald frame ~~[(2)]~~ according to Claim 1.